

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number
WO 2005/068842 A1

(51) International Patent Classification⁷: **F04D 27/02**,
29/42

(21) International Application Number:
PCT/US2003/041626

(22) International Filing Date:
24 December 2003 (24.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant: **HONEYWELL INTERNATIONAL, INC.**
[US/US]; 23326 Hawthorne Boulevard, Suite #200, Tor-
rance, CA 90505 (US).

(72) Inventor: **CHEN, Hua**; 66 Aveling Park Road, Waltham-
stow, London E17 4NT (GB).

(74) Agents: **PANGRLE, Brian, J.** et al.; Lee & Hayes, PLLC,
421 W. Riverside Avenue, #500, Spokane, WA 99201 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

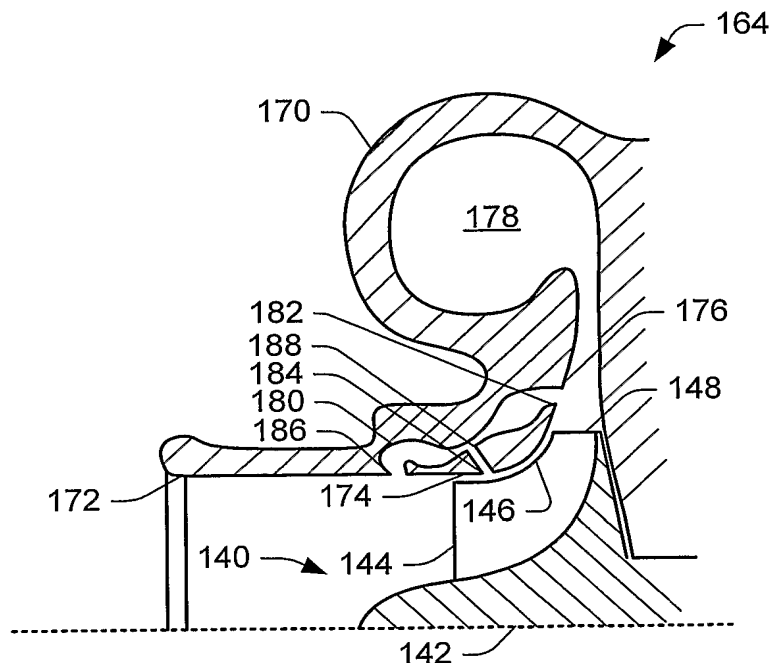
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RECIRCULATION PORT



(57) Abstract: An exemplary port (180, 180') includes a first port opening (182, 182') positioned at a location downstream from a compressor wheel (140), a second port opening (184, 184') positioned at a location adjacent to a blade (144) of the compressor wheel (140), and a third port opening (186, 186') positioned at a location upstream from the compressor wheel (140) wherein the first port opening and the third port opening define a first flow path and wherein a second flow path extending from the second port opening meets the first flow path at a confluence (188, 188'). The first flow path optionally includes a venturi section, for example, wherein the confluence coincides at least in part with the venturi section. Other exemplary ports, compressor shrouds, systems and methods are also disclosed.